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ABSTRACT

Research on incidental learning by children from television is both a cause and effect of the increasing attention being given by social and behavioral scientists to the influence of mass media. Laboratory-type experiments and data collected from everyday life are consistent in their findings, providing convincing evidence that television can influence the immediate behavior of children. When this altered behavior is carried over into social interaction, the foundation is established for more far-reaching influence. Television also has varied cognitive and attitudinal effects on children, e.g., it is their principal source of information on public affairs. Television designed to convey information can be quite effective, and entertainment programs occasionally provide instruction, but their impact is sometimes limited by redundancy with one another. Commercials also instruct children by influencing preferences for the value placed upon products. Tastes and preferences in programming and time spent with the medium change along with individual interests and needs as young people grow older. The study of television's influence requires both laboratory-type experimentation and the collection of data from real life, the former to establish the possibility of causation and the latter to confirm the presence in real life of experimental findings. (Author)

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TRENDS IN THE STUDY OF INCIDENTAL LEARNING FROM TELEVISION VIEWING

by

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incidental: adj. happening as an unintended accompaniment of something; of that which is not essential and not invariably found.

English, H.G., and English, A.C.,
A Comprehensive Dictionary of
Psychological and Psychoanalytic Terms

INTRODUCTION

In recent years, the most significant development in the study of the influence of the mass media has been the return to a flirtation with the hypothesis of major effects. This is the result of (a) an accumulation of findings and (b) a shift in perspective. The change in emphasis, which has led one prominent observer (Katz, 1975) to speak of a "renaissance" in communication research, has been visible in areas ordinarily thought of as remote from child development, such as politics. However, it is inextricably bound up with television and the extraordinary amount of time children and adolescents spend with the medium.

The initial significant date is 1963 when two experiments were published in a well-known psychological journal. Bandura, Ross, and Ross (1963a) demonstrated that aggressive behavior on the part of nursery school children was greater subsequent to viewing television

portrayals of either ordinarily-clothed adults or of a costumed cat lady attacking a Bobo doll. Berkowitz and Tawlings (1963) demonstrated that the punitiveness of college-age subjects was increased by viewing a prize fight film said to depict the just punishment of a scoundrel. These and subsequent experiments with similar results began to alter sharply the prevailing assumptions among social and behavioral scientists about the impact of the media. The very extensive assessments of television's early influence on children in England and the United States by Himmelweit (1958) and by Schramm (1961) and their colleagues had not offered evidence of such clearcut behavioral effects. These investigations provided theoretical formulations and a body of data still relevant in many respects today, but they did not appear to contradict the prevailing view of minimal media effects (Comstock et al., 1978). This perspective--perhaps best exemplified in the theoretical framework offered by Klapper (1957, 1960, 1963)--held reinforcement of existing propensities as the primary outcome; it did not so much deny effects as categorize them so that they were generally thought of as unimportant. The Bandura and Berkowitz experiments began a revisionism that was to be reinforced by later investigations.

A decade later, the research funded in behalf of the Surgeon General's examination of television violence (Comstock and Rubinstein, 1972a, 1972b; Comstock, Rubinstein, and Murray, 1972; Murray, Rubinstein, and Comstock, 1972; Rubinstein, Comstock, and Murray, 1972) made two major contributions. It enhanced the apparent validity for real-life behavior of the findings of laboratory-type experiments on violent portrayals and it altered the perceived topography of communications studies. It achieved the former by providing positive correlations

between the everyday aggressiveness of adolescents and their prior exposure to violent programming (Chaffee, 1972a, 1972b; Comstock, 1976), and one consequence was to increase interest in studying the media's influence on the young. The latter resulted from the various emphases of the new research and the issues thereby raised, leading to an agenda for research giving new prominence to such topics as the implications of the violence research for other kinds of behavior and for the psychological processes involved in behavioral effects, the degree of guidance that television entertainment, news, and commercials provide in daily thought and behavior of children, and the importance of maturational changes for these varied media influences (Comstock, 1972; Comstock and Lindsey, 1975; Leifer, Gordon, and Graves, 1973).

There has also been a slowly growing acceptance of the proposition that quantitatively small media effects may have major social import. The most obvious example is the election of a President by a small and perhaps transient margin, as occurred in 1960 (Kennedy-Nixon), 1968 (Nixon-Humphrey), and 1976 (Carter-Ford). In such circumstances, any election-day advantage devolving from television represents a major effect. It would be a serious error to believe that such a phenomenon is confined to politics. As Milgram and Shotland (1973) point out in reflecting on the null results of their field experiments on television and anti-social behavior, a rate of effects far below that detectable by their experimental tactics could constitute serious social disruption. Airline bomb threats and other hostile acts apparently imitative of televised accounts are an illustration (Bandura, 1973). Different in kind, but alike in supporting the proposition, are effects that alter the level or distribution of important social attributions, such

as interpersonal aggressiveness, reading skills, and the acceptance or rejection of norms. What we have, then, are at least three circumstances in which small is important: effects that tip the social balance, as in elections; effects whose rarity fails to divest them of impact; and, effects that alter prominent aspects of the societal profile.

The earlier skepticism over the importance of media impact is traceable to the failure of studies of presidential elections in the 1940s and 1950s to find voter choice much influenced by mass media exposure (Lazarsfeld, Berelson, and Gaudet, 1944; Berelson, Lazarsfeld, and McPhee, 1954; Campbell, Gurin, and Miller, 1954; Simon and Stern, 1955; Berelson and Steiner, 1964; Kraus and Davis, 1976; Comstock et al., 1978). These null results were largely unexpected. The skepticism was increased by the theoretical framework that consigned effects to minor change or reinforcement (Klapper, 1960), unless they represented a reversal of prior thought or behavior or seemed inconsistent with personal attributes.

The more recent retreat from null effects deeply involves the influence of television on the young. Children and college students not only were the subjects of the many television violence experiments, but a principal justification for these studies was the medium's possibly malefic socializing influence. What these experiments offered was not simply the demonstration of short-term communication effects, which had been amply demonstrated by attitude change experiments (Hovland, 1954, 1959), but the demonstration of altering a class of behavior--aggressiveness--of acknowledged social importance. Much of

the research that followed, including that under the Surgeon General's program, has focused on children or adolescents.

The reemergence of the concept of major media effects is thus intertwined with the collection of evidence about television's role as a teacher. Even the view that small effects may have major import has received enhancement from the protectionism that society extends to children. Like anyone else, of course, the young viewer with a use for knowledge will be more receptive when it appears to be offered, whatever the guise. Nevertheless, the instruction that television provides occurs largely as a by-product of a search for diversion, and thereby takes place in a context dissimilar to schooling. Even the viewing of news under ordinary circumstances seems not to replicate the classroom. When we step out of the school and before the television set, we depart from a circumstance in which the parties acknowledge that the goal is an effect on thought and behavior beneficial to the audience to one where the implicit contract recognizes the self-interest of the communicator--either in achieving the largest possible audience or in selling products.

BEHAVIORAL INFLUENCE

Bandura (1969, 1973) has proposed that television is a source of vicarious socialization that to some degree has replaced more traditional agents--home, school, and church. There are at present no data that would allow us to assign relative importance to the various alleged agents of socialization. The hypothesis of socialization by television rests principally upon the demonstration that portrayals can alter subsequent behavior.

Most of the evidence on television's behavioral influence concerns the effects of television violence on aggression. However, the theoretical formulations employed to explain such outcomes, along with a small amount of evidence regarding other kinds of effects, suggest that the range of behavior open to influence is broader than aggressiveness.

Several studies have provided positive correlations between everyday violence viewing and everyday aggressiveness (McLeod, Atkin, and Chaffee, 1972b; Lefkowitz et al., 1972, 1977; McIntyre and Teevan, 1972; Chaffee, 1972a). These studies also provide evidence that this association is not explained by the preference of more aggressive youths for violent entertainment, and persists when such variables as age, socio-economic status, school performance, and total viewing time are taken into account (McLeod, Atkin, and Chaffee, 1972a; Chaffee, 1972a; Eron et al., 1972).

Lefkowitz et al. (1972, 1977) argue that their longitudinal data constitutes "compelling evidence that there is a probably causative influence of watching violent television programs in early years on a

boy's later aggressiveness" (1977, p. 126). Even if their conclusion is judged to exceed the power of their data, as many have argued (Kaplan, 1972; Howitt, 1972; Kay, 1972), the data add importantly to the evidence by supplying positive correlations between violence viewing and aggression which span a decade (Chaffee, 1972).

In sum, these correlational studies supply evidence of a positive association in real life between exposure to a class of media content and behavior on the part of young people. The experiments make possible the inference that media exposure can be a cause of increased aggression, and they supply a number of plausible psychological mechanisms for such an outcome. Together, the correlational and experimental studies make a case for the behavioral influence of television for which neither alone would be sufficient.

The social learning theory of Bandura (1969, 1973) posits that behavior can be acquired by observing others, without performance or reinforcement. A corollary is that film or television portrayals may have an influence similar in kind to those of live experience. Numerous laboratory-type experiments demonstrate that children of nursery school age conform to these propositions. Bandura, Ross, and Ross (1961) found that the aggressive behavior of adult models would be imitated. Their 1963(a) experiment demonstrated that media portrayals, including simulated cartoon fantasy by a cat lady, could also lead to imitation. In a subsequent experiment, the same authors (1963b) found that a television portrayal of triumphant aggression was more likely to be imitated than a portrayal of aggression that was punished or of non-aggressive behavior, and the children who saw the victorious attack were more likely to express criticism of the victim. Bandura

(1965) then demonstrated that acquisition of the responses occurs as a result of observation although performance may be inhibited by various factors. In this instance, initial differences, in which imitative aggression was least when a portrayed perpetrator was punished, disappeared when children were offered a reward for imitating the perpetrator. One implication of these varied findings is that differences in performance in part hinge on attributes of the portrayed performance. Rosekrans (1967) may be construed as elaborating on those attributes, showing that imitation increased where the portrayal of a person was depicted as more similar to the viewer.

The facilitation or disinhibition theory of Berkowitz (1962, 1964, 1973) holds that television and film portrayals of violent behavior can alter subsequent aggressiveness on the part of viewers by changing the elicitory potential of environmental cues or the meaning attached to aggressive behavior itself. The finding that college-age subjects become more punitive after viewing aggression depicted as justified (Berkowitz and Rawlings, 1963; Meyer, 1972) is merely the first in a series of experiments concerned with the factors upon which increases in aggression subsequent to viewing a violent portrayal may be contingent. Several demonstrate that punitiveness is increased when the portrayal contains a cue, such as the name of the victim, that matches that of the target whom angered subjects have the opportunity to aggress against (Berkowitz and Geen, 1966, 1967; Geen and Berkowitz, 1967). Two (Berkowitz and Alioto, 1973: Geen and Stonner, 1972) demonstrate that depictions of violence characterized as motivated by an intent to injure increase the punitiveness of viewers. Two (Feshback, 1972; Berkowitz and Alioto, 1973) also demonstrate that

portrayals of aggression labelled or perceived as realistic rather than imaginary increase the punitiveness of viewers.

There are several theoretical formulations that hold that exposure to television or film portrayals of violence will reduce the aggressiveness of viewers. The catharsis hypothesis, derived from Aristotle's argument that fear and pity are purged by attending to tragedy in drama, asserts that vicarious participation in aggression will reduce aggressive drive (Feshbach, 1969; Comstock et al., 1978). Feshbach (1961) found that angered college-age subjects engaged in less hostile imagery after viewing a violent portrayal; Berkowitz and Rawlings (1963) argued that the outcome which Feshbach attributed to catharsis, was the result of heightened anxiety over aggression. Such anxiety, they reasoned, would lead to the inhibiting of aggressive responses, and they supported their case with the evidence that when inhibitions were lowered by the presentation of a 'justified' target for aggression, the observation of violence increased rather than decreased punitiveness. The frequency with which subsequent experiments have demonstrated increased aggressiveness following exposure to violent portrayals eliminates the possibility so far subjected to scrutiny. The formulation of Berkowitz and Rawlings suggests, as Geen and Quanty (1977) conclude in their recent review, that when exposure to a violent portrayal is followed by a decline in aggressiveness, the explanation is most likely the inhibition of aggressive responses as the result of the heightening of anxiety over aggression. A third view, that violent portrayals may reduce subsequent aggressiveness by providing the substance of self-generated fantasy whose deployment will wholly or partly

substitute for behavior (Feshbach and Singer, 1971), is so far little investigated, but merits serious attention.

The arousal hypothesis holds that the excitatory character of television and film portrayals can enhance the display of whatever behavior may be appropriate (Tannenbaum, 1971, 1972; Tannenbaum and Zillmann, 1975). Zillmann (1971) demonstrated that an erotic portrayal could evoke greater punitiveness among college-age subjects than a violent portrayal, although the violent portrayal did increase punitiveness. Zillmann, Johnson, and Hanrahan (1973) demonstrated that a violent sequence with a happy ending evoked less punitiveness than the same sequence without felicitous resolution. The question raised by these and other demonstrations that audiovisual stimuli may lead to physiological arousal and through its excitatory capacity alter behavior (Zillmann and Johnson, 1973; Zillmann, Hoyt, and Day, 1974) is whether arousal, rather than the violent content, explains the increases in aggressiveness that have been observed after exposure to violent portrayals. The answer is that it may be a partial, but is unlikely to be a sufficient, explanation. It does not bear on the question of acquisition of aggressive responses, and it does not explain why perceived reward for a perpetrator, environmental cues, or characterizations of the portrayed violence as malevolent or justified should affect the impact of portrayals, unless one chooses to believe that these factors manipulate arousal. The findings of Berkowitz and Geen (1966) that a violent sequence did not elicit greater aggression than a high-action sports sequence is consistent with an arousal explanation; however, the findings in the same experiment that aggression was increased by the similarity of cues between

film victim and real-life target is not. There is also the finding of Krull and Watt (1973) that aggressiveness among adolescents correlates independently with both prior violence viewing and prior exposure to action-filled programming when program action is measured independently of violent content. We are led, then, to the proposition that audio-visual stimuli may alter behavior through physiological arousal, but not to the conclusion that this property accounts in entirety for the contribution of violent portrayals to aggressiveness.

Some writers (Kaplan and Singer, 1976) have emphasized the role of frustration or provocation of subjects as a necessary condition for the appearance of media-enhanced aggressiveness. While it is possible to cite experiments in which frustration or provocation were not employed (Liebert and Baron, 1972), the more reasonable question is whether the manipulated sensitivity exceeds that which one would find frequently in everyday life. The answer is that it does not. We have insult and the delivery of mild electric shock, and we have the denial of access to desirable toys; none of these would appear to transcend the ordinary abrasiveness of human interaction.

The findings lead us to advance some general principles regarding the influence of television portrayals on the behavior of young persons. They suggest that portrayals may influence behavior through the acquisition of new responses or through altering the likelihood of the performance of newly or previously acquired responses. Such alteration may occur through the changing of expectations regarding the outcome of behavior, through identification with the perpetrator of an act, by raising or lowering inhibitions, by changing the elicitory potential of environmental cues, and by assigning certain meanings to a class of

behavior. Thus there are two kinds of instructional processes at work: (a) those which directly teach specific ways of behaving, and (b) those which revise, however temporarily, the internalized contingencies which govern the display of behavior. As various observers have emphasized (Bandura, 1978, 1973; Comstock et al., 1978), the fate of both kinds of instruction as far as long-term influence goes will be determined by the success or failure of the behavior in the marketplace of human interaction. If the behavior is reinforced by proving efficacious for the individual, it will find a new prominence in his way of life.

These principals as stated are independent of the class of behavior under investigation. It would be a serious mistake to assume that any or all kinds of behavior are equally subject to influence within the confines of a laboratory setting, or that there will always be positive correlations between exposure and behavior to encourage an inference of media impact outside the laboratory. Nevertheless, it would be a more serious error to treat the findings as exclusive to aggression or punitiveness. What they offer are propositions to be qualified in regard to the breadth of their applicability as findings about other kinds of behavior accumulate.

The findings on the effects of television and film portrayals on rule violation by children are consistent with this view of broad applicability. The two types of rule violation that have been investigated are the failure to adhere to a standard of performance and deviation from some stipulation with regard to play. This area of investigation has implications for the everyday welfare of children because acts harmful to self or others frequently involve the departure from the admonition of a parent or teacher. Wolf and Cheyne (1972) found that deviation in a portrayal increased the likelihood of subsequent

deviation on the part of children. Other experiments have demonstrated, in accord with the findings on aggression, that the likelihood of deviant behavior is increased by a portrayal in which such behavior is rewarded (Walters and Parke, 1964) and decreased by a portrayal in which such behavior is punished (Walters, Leat, and Mezei, 1963). Other findings emphasize the importance of observed behavior as an influence, for while inconsistency between verbal advocacy and behavior in a portrayal has been found to increase the likelihood of deviation (Allen and Liebert, 1969; Stein and Bryan, 1972), deviant behavior is more likely to do so than advocacy of deviation (Allen and Liebert, 1969; Wolf, 1973).

On consequence of the Surgeon General's study was to turn attention to the possibility that television portrayals are capable of enhancing the likelihood of various positive or socially desirable forms of behavior. Of course, any kind of behavior, like aggression, depends on the cirumstances and the values introduced by the observer for its classification as desirable or "pro-" or "anti-" social. Nevertheless, there are certain kinds of behavior that in the absence of other information have the endorsement of society, such as sharing, helping, and cooperation. There is so far only a modest amount of evidence on the capability of the medium to enhance such "pro-social" behavior. Drabman and Thomas (1974) demonstrated that readiness to summon help, as instructed, when children's play became violent could be inhibited by exposure to a violent portrayal. Several studies have demonstrated that everyday fears, such as fears of dogs or dentists, can be reduced by portrayals showing a fearless approach to the abhorred stimulus (Bandura and Menlove, 1968; Hill, Liebert, and Mott, 1968, Poulos and

Davidson, 1971). Delay of gratification, defined in the experiment in question as willingness to forego a small reward in quest of a larger one later, was increased by portrayals both of such behavior and of verbal advocacy in its behalf, with the effect greatest when advocacy and behavior were both included (Yates, 1974). Portrayals of the behavior in question similarly have been shown to be capable of increasing affectionate displays toward a doll (Fryear and Thelen, 1969; Tasch, 1970), sharing (Bryan and Walbek, 1970; Elliott and Vasta, 1970; Liebert, Fernandez, and Gill, 1969), generosity (Bryan and Schwartz, 1971), and helping (Collins, 1974; Rubinstein et al., 1974).

Experimental manipulations of televised portrayals are sometimes criticized for being atypically graphic and demonstrative in comparison to television entertainment. The adult viewer of Saturday morning--and much other--programming may doubt its challengeability in such properties, but it is certainly true that the context of experimental manipulation typically is unlike that of the portrayals in ordinary programming. Viewing usually occurs in isolation from other television in a foreign and, to the viewer, possibly exotic environment. We do not dismiss the relevance of such manipulations because the task of the experiment is to test hypotheses about outcomes and the processes by which they may occur, not reconstruct reality in miniature. However, we are further encouraged to believe that the findings are relevant to television entertainment because the viewing of various actual sequences of programs and whole programs has been demonstrated to affect subsequent behavior. Rubinstein et al. (1974) increased helping by a Lassie episode; Friedrich and Stein (1975) increased cooperation with episodes

of Mister Rogers' Neighborhood; Gorn, Goldberg and Kanungo (1976) increased acceptance of racially different playmates by portrayals of racially mixed play groups inserted in Sesame Street; and various investigators have successfully affected subsequent aggressiveness by the use of sequences or whole programs or films of violent entertainment (for example: Berkowitz and Rawlings, 1963, employ the film Champion's penultimate prize fight; Liebert and Baron, 1972, pistol and knife assaults from TV's The Untouchables; Steuer, Applefield, and Smith, 1971, Saturday morning programs; Parke et al., 1977, the films Champion, The Chase, Death Rides a Pale Horse.)

The principal means by which the various demonstrated effects would appear to be achieved is through the alteration of the value that young viewers place on the acts in question. The departure for this view is the frequency with which reward or non-punishment for the portrayed behavior enhances the likelihood of performance, whether the class of behavior is aggression (Bandura, Ross, and Ross, 1963b), rule adherence (Walters and Parke, 1964; Walters, Leat, and Mezei, 1963), or sharing (Elliott and Vasta, 1970). However, it is also consistent with the finding that aggression is encouraged by portrayals in which such behavior is depicted as justified (Berkowitz and Rawlings, 1963), realistic (Feshbach, 1972), malevolent (Berkowitz and Aliota, 1973; Geen and Stonner, 1972), or directed against someone reminiscent of a likely real-life target (Berkowitz and Geen, 1966), for these are all factors that presumably would alter the young viewer's sense of the appropriateness of such behavior. Of course, we now have deserted the concepts that are instrumental to scientific advance for a more encompassing one that permits us to assign to the evidence its social importance.

It is natural at this point to ask what we know about what television entertainment portrays. We know that the incidence of violent human interaction has remained substantial over the past decade, that the social order is distorted through an emphasis on law enforcement, a high level of risk, and a high proportion of professionals, and that often goals are achieved by socially disapproved means (Gerbner and Gross, 1976; Comstock et al., 1978). Hyman (1973) has argued that television may teach such socially desirable responses as empathy for victims and persistence. There is certainly no justification at present for rejecting such a view. Meyer (1973) reports that a majority of children perceived their favorite television characters to behave in socially desirable ways consistent with their own behavior, although a sizable minority of boys admired violent behavior as a means of problem solution. However, there are some reasons for suspecting that aggression may be more readily taught by television than other classes of behavior (Comstock et al., 1978). These include the greater attention that children give to violent action, the possibility that a socially disapproved class of behavior may be more open to transient redemption than a socially approved class can further augmented, and the character of physical aggression as involving discreet acts with applicability in a wide range of settings and circumstances.

COGNITIVE AND ATTITUDINAL EFFECTS

There is convincing evidence that television viewing outside of school is a source of information for children and adolescents. Much of television, of course, has no such effect because it is redundant either with itself or other sources. However, when television conveys what is unfamiliar it has the opportunity to teach, and its effectiveness becomes a function of the comprehension achieved and the magnitude of the audience for the particular "lesson" in question.

Television news and public affairs programming appears to be a major source of young persons' knowledge about current events. Children and adolescents typically rate television as a far more important source than parents, teachers, or peers for information about public issues, and the viewing of television news is associated with greater factual knowledge (Tolley, 1973; Hollander, 1971; Hawkins, 1974; Chaffee, Ward, and Tipton, 1970; Bailey, 1975). Newspapers, of course, are similarly effective in conveying knowledge when read, but younger children typically do not read them regularly. During the elementary school years, television is overwhelmingly the mass medium most used, and exposure to news and public affairs content often occurs simply as a by-product of television viewing. In high school, newspapers become relatively more important, some young people begin to seek out public affairs information in the media, and television becomes one, and sometimes subordinate, influence among the mass media in contributing to knowledge. However, even in this later period television is likely to remain the most named source, and as a whole--entertainment and public affairs viewing combined--remains the medium of principal attention.

This pattern suggests that the very late elementary or early high school years may be a very important period for providing in-school instruction about the role of the media in public affairs. It is here that we find young people beginning to turn to the mass media for such information, and to choose among them. The implication is that this may be a crucial period for nurturing habits of media use, and judiciousness in evaluating them, that may form the basis for lifelong behavior.

As several observers recently have pointed out (Comstock et al., 1978; Kraus and Davis, 1976), it is only very recently that the mass media have begun to receive attention in regard to political socialization. Current thinking tentatively assigns an important place to the media, and in particular to television. The earlier indifference is attributable to those voting studies of the late 1940s and 1950s that found little influence of the media on voter choice, and the application of their findings to children and to the ensuing years when television emerged as a major medium. Television changes the picture in regard to children in particular because it reaches persons whose age or indifference exclude them from other media.

It is important to realize that the emphasis of the school and the mass media are quite different in regard to public affairs, and that the two must be considered as complementary and to some degree in conflict. The school traditionally emphasizes the consensual aspects of government, giving attention to the symbols of unity, such as the President, the Congress, and the Supreme Court, and the ways in which responsibility and power are divided as a means of resolving issues. The mass media, on the other hand, inevitably emphasize the clashes and discontinuities of the political system. In the school, the student may weigh the

merits of bicameral vs. unicameral legislatures, proportionate vs. representation by majority, and two-party vs. multi-party systems. In the mass media, he will encounter Watergate, the civil rights movement, terrorists, protests over the U.S. involvement in Vietnam and corruption. On television, these signs of disruption will be particularly vivid and dramatic. The school is likely to focus on the office of the President; television presents him with a shaken ex-President boarding a helicopter in unwilling farewell to that office. Because of this difference, in which television provides information not at all redundant with that taught by the school, it is reasonable to suspect considerable influence on his views of the political process.

Television programs designed to instruct clearly can increase knowledge. Alper and Leidy (1970) examined teenagers before and after the broadcast of the CBS National Citizenship Test, and found that knowledge increased on constitutional issues covered while there was no change on material not included in the broadcast. Sesame Street has enjoyed an enormous reputation for its instructional effectiveness among pre-school viewers. Although the original evaluations finding large effects (Ball and Bogatz, 1970, 1972; Bogatz and Ball, 1971) have been subjected to much more conservative interpretation by Cook et al. (1975), even this revisionist viewpoint concludes that viewing of the program could result in increased knowledge. Cook et al., reinterpreting the earlier data, infer that gains were largely contingent on parental encouragement to view rather than viewing alone, and that gains were limited to comprehension of symbols, such as numbers and letters, and did not extend to the manipulation of symbols or the ability to apply what was taught in new contexts. Cook et al. also

argue that, because of differential viewing rates among social strata, the program increased rather than decreased the knowledge gap between children from more and less affluent families. However, even accepting this far more skeptical perspective, Sesame Street, which exemplifies instruction in the guise of entertainment, can be said to be capable under some conditions of increasing some kinds of knowledge.

Television entertainment also instructs young persons, although not so directly. Of course, children and adolescents "learn" in the sense of being able to report later about the people, events, and circumstances portrayed (Collins, 1970; Hale, Miller, and Stevenson, 1968; Hawkins, 1973; Katzman, 1972; Leifer et al., 1971; Leifer and Roberts, 1972; Flapan, 1968). Comprehension, of course, increases as children grow older. Whether it contributes to the body of knowledge they apply to everyday behavior depends on its relevance, the consistency with which a particular lesson is conveyed by the medium, and the absence of other sources of guidance. Thus, we find that some teenagers will turn to television to learn about norms for dating behavior, and that such information-seeking appears to be most common for teenagers lacking other sources (Gerson, 1966), and that children's perceptions of occupations portrayed on television but unrepresented in their environment are shaped by the medium (DeFleur and DeFleur, 1967). We also find that extensive exposure to television is related to the possession of attitudes consistent with television portrayals, with regular viewing of violent programs associated with dispositions favorable to aggressiveness (Dominick and Greenberg, 1972) and heavy viewing of television associated with various beliefs more in accord with the world of television entertainment than the real world (Gerbner and Gross, 1976).

Television commercials are undoubtedly effective in teaching. The child who loudly cries in the supermarket aisle that a wrapped bread is, "The best in the world!" does not learn such a lesson at the family table. Concentrated campaigns for toys, such as occur at Christmas, apparently can alter children's toy preferences in favor of the advertised items (Rossiter and Robertson, 1974). Exposure to a toy commercial can increase the frequency with which a pre-school child will depart from his mother's judgment about the desirability of a toy, evaluate a parent unfavorably for not purchasing a toy, and choose to play with a "not so nice" boy who has the toy (Goldberg and Gorn, 1977). Exposure to a toy commercial also will lead children to persist longer in a task whose goal is to win the advertised toy (Goldberg and Gorn, 1974). Frideres (1973) found that three-fourths of a small sample of five-to-eight year-olds said that television was the first place they had seen a toy they would like to have, and the citing of television increased with amount of viewing. Similarly, Atkin (1975) found requests to parents for toys and cereals advertised on television were more frequent among heavy than light viewers in a sample of 738 children ranging from pre-school to the fifth grade. Atkin also found such requests quite frequent among the 60 percent of his sample classified as light viewers--with 64 percent "sometimes" and 16 percent "a lot" asking for advertised toys (compared to 46 and 40 percent for heavy viewers), and 50 percent "sometimes" and 24 percent "a lot" asking for cereals (compared to 39 and 40 percent).

Salomon (1974a, 1974b, 1974c, 1977) has collected evidence in a series of studies that television viewing affects children's ability to interpret symbols. The guiding hypothesis is that television calls

into play certain skills, thereby nurturing their development, and that these skills have applicability not only to additional television and film viewing but also for other cognitive tasks. For example, he reports that televising the operation by which an end state is reached, such as using zooming to isolate portions of art works or displaying the steps by which a solid object is folded-out to a flat but comparable figure, increases the capacity of children to independently undertake such operations. Although he concludes that specially prepared television stimuli can achieve such effects, he also concludes that ordinary entertainment viewing has only a small impact, primarily because it does not call upon the requisite mental activities sufficiently. Heavy viewing thus fails to augment skills because the additional exposure to the medium does not add a significant quantity of cognitive instruction.

DEVELOPMENTAL FACTORS

The early studies by Schramm (1961) and by Himmelweit (1958) and their colleagues gave considerable attention to the changing role of television as children grew older. Brighter children, along with greater involvement in a variety of activities, were found to view as much as less bright peers but to decrease viewing compared to such peers as they grew older (Schramm, Lyle, and Parker, 1961). The implication--that amount of television viewing is relatively unrelated to other variables among younger children, but becomes more distinctly related with age--would appear to hold today although the differential patterns of consumption related to socio-economic status and intellect are probably less distinct than two decades ago because of the increasing acceptance of television among all social strata (Comstock et al., 1978). In recent years, there has been increasing emphasis on age-related changes in behavior associated with the media (Roberts, 1973; Comstock and Lindsey, 1975; Leifer, Gordon, and Graves, 1974; Ward, Wackman, and Wartella, 1977). Such an approach is justified by the differences that age brings in consumption of television, program preferences, parental restrictions over amount of viewing and program selection, the patterns associated with intellect, socio-economic status, and race, and the increase in adult programming's relevance to behavior and decisionmaking as adolescence is approached.

As suggested earlier, the available data make it very tempting to believe that the years just before the onset of adolescence may be particularly important for the formation of adult media habits. Exposure to television news and public affairs content between this period

and adolescence changes from a by-product of entertainment viewing to viewing that more frequently occurs by its own justification (Chafee, Ward, and Tipton, 1970). At the same time, television use is declining; newspapers are read more frequently. What must be central, however, is the acknowledgement of the continuation of substantial viewing and the continued domination by television of media behavior. The Nielsen estimate for average viewing of those 12-17 years of age is fully three-fourths that for all persons; other media use is modest. Even for public affairs information, any shift toward newspapers is modest enough so that, at best, television and newspapers can be said to be equally important as sources during adolescence (Comstock et al., 1978).

When we take into account the evidence on the efficacy of parental communication in regard to media content, the preadolescent years, because they are the locus for change, would appear to be particularly suited for attempts by parents and teachers to exert influence in regard to media choice and use. Yet, the fact that television viewing will have been a continuing activity since early childhood argues against delimited activism. It is more plausible to judge this period as particularly suited for intervention regarding television news and public affairs programming and newspaper use, and to believe that the time for intervention with regard to television entertainment begins much earlier--as soon as the child is able to comprehend the distinctions advanced.

The issue of age also becomes important in interpreting the results of experiments which demonstrate behavioral effects and employ very young children as subjects. It is sometimes argued that these experiments do not bear on the behavior of older persons. This is a view

that ignores the role of theory in developing knowledge about human behavior. Certainly there should be no question that these experiments demonstrate that television may affect the play behavior of young children--and play, as every parent knows, can be the context for the expression of hurtful, injurious acts. The experiment by Sawin (1974) in which violent programming failed to alter aggressive play simply convinces us that effects are not inevitable. Similarly, the experiment by Ross (1972) in which imitation in play after viewing a violent cartoon was confined to acceptable playfulness cannot be taken as invalidating the relevance of the various findings for non-playful aggression. What this experiment emphasizes is that performance which transgresses social norms certainly does not become inevitable simply because a class of behavior open to influence by television has the potential for such application. What the experiments with very young children demonstrate is the operation of basic psychological processes. Certain of these processes, such as those concerned with acquisition, are most open to test with young children whose behavioral repertoires are incomplete and unelaborated. It is more plausible to believe that far more complex sequences of behavior may become more accessible to older individuals as the result of viewing than to assume no effect at all, but it seems unlikely that such effects could be readily demonstrated by a laboratory-type experiment. With older persons, because of their elaborate repertoires of behavior, we become more concerned with investigating the factors affecting performance rather than those involved in acquisition, and the role of variations in television portrayals in affecting performance has been amply demonstrated in experiments with subjects of college age.

Developmental factors play a very large role in children's responses to television commercials. Obviously, the relevance of products changes as children grow older. Young children are principally consumers of foods and toys, and a majority of weekend morning advertising is for ready-to-eat cereals, candies, snacks, and fast-food establishments (Barcus, 1975). As they grow older, the products advertised on prime time and other general audience programming become progressively relevant--including some, such as vitamins, proprietary drugs, and beer and wine, prohibited by federal regulatory action or broadcasting industry codes from inclusion with children's programming. There has been speculation that the exposure of children to appeals in behalf of certain of these product categories, such as drugs and alcohol, encourages their abuse (Comstock et al., 1978). The sparse empirical evidence available does not favor such an interpretation in its strongest form, although neither does it compellingly disconfirm it. A painstaking longitudinal study of teenagers (Milavsky, Pekowsky, and Stipp, 1975) found quantity of exposure to proprietary drug advertising unrelated to use of illicit drugs, but very slightly positively related to use of proprietary drugs. These findings are not consistent with the claim that advertising for drugs encourages experimentation with (unadvertised) categories of drugs stipulated by law to be undesirable, but because the findings do not tell us whether greater use of proprietary drugs was associated with appropriate symptoms or was gratuitous, the evidence cannot be said to be inconsistent with the misuse of proprietary drugs.

There are three major developmental trends that emerge in children's responses to television advertising (Ward, Levinson, and Wackman, 1972;

Ward and Wackman, 1973; Ward, Wackman, and Wartella, 1977; Rossiter and Robertson, 1974; Comstock et al., 1978; Blatt, Spencer, and Ward, 1972; Ward, Reale, Levinson, 1972; Ward, 1972; Alder, 1977), and such reactions increasingly become a function of the recognition of the nature of advertising rather than some perceived implausibility of a particular commercial. Unless we are ready to believe that adults, who typically pay less attention to commercials than program content, understand the nature of advertising, and express skepticism and distrust of commercials, are thereby unaffected by television advertising, we should not assume that these trends imply an absence of influence on older children.

A similar developmental trend toward increased comprehension obviously occurs in regard to program content. Leifer and Roberts (1972), for example, found that the understanding of the motivations and consequences for aggressive behavior in television drama increased as children advanced in age from pre-school through the 12th grade, with only the older children as a group understanding both. Flapan (1968) examined the feelings, thoughts, and intentions attributed by girls of different ages to the characters in two short tales excerpted from the film Our Vines Have Tender Grapes. In one, a daughter is taken to the circus by a father who feels remorse over punishing the child for failing to share her roller skates. In the other, the mother and father decide to give the girl a calf of her own to help her through a period of emotional upset. In comparing the interpretations of girls six, nine, and 12 years old, Flapan found a shift from the literal to the psychological and motivational, and a progressive increase in the role assigned to feelings and the complexity among factors, with much more change occurring between ages nine and 12 than six and nine.

As would be expected, the cultivation by television of cognitive skills studied by Salomon (1974a, 1974b, 1974c, and 1977) are also highly dependent on the viewer's age. Pre-school children appear to gain little at all. By age eight-to-nine, effects are noticeable, with middle class children displaying achievement at ages somewhat earlier than those from families of lower socio-economic status. As children grow older, effects decline because the skills in question have been mastered within the capability of the viewer. Ordinarily, instruction that "supplants" a cognitive process, as occurs when zooming is used to explicate a visual presentation, is mastered at an earlier age than that which "calls upon" skills, as occurs when a solid object is folded-out to a comparable flat figure in a televised presentation.

ISSUES OF AUTHORITY

The television experience of young persons in America is bound up with questions of authority--over the disposition of time, over access to information, and over the exercise of influence. Television has been called a "third parent" (Surlin and Dominick, 1970) and a "second teacher" (Comstock, 1977); these metaphors, as does the cliche of the set as baby-sitter, pay tribute to the medium's intrusion into family management.

The posture adopted by parents of course differs from family to family, but most children have considerable latitude in regard to what they will view and how much time they will spend viewing. About 80 percent of American parents will agree that children "are better off with television" than "without television" (Bower, 1973), but the meaning to be attached to an endorsement of a fait accompli as pervasive as this medium is unclear--would we presume that an endorsement "better off" with than without the auto implies no affront at pollution? Many parents certainly express some degree of concern. For example, about half apparently believe children may "see things they shouldn't" on television and about a third believe television "keeps them from doing things they should" (Bower, 1973). Nevertheless, rules about viewing are far from universal, with less than half saying they have rules and about a third saying there are no rules and the children decide. Parents also may often have only a very vague notion about what and how much their children view--for data on these questions differ greatly, depending on whether the source is the parent or the child (Greenberg, Ericson, and Vlahos, 1972; Stipp, 1975). Reports by parents of having

rules increase with parental education; the greatest increase occurs among parents with a high school education, where about 40 percent say they have rules compared to 25 percent for those who did not complete high school and about 45 percent for those with a college education (Bower, 1973). Reports by children confirm that parental attempts to influence viewing increase with socioeconomic status (Greenberg and Dervin, 1970). Whatever parents as a group may do in regard to viewing, the evidence clearly supports the view that parents may exercise considerable influence over the impact that viewing will have on their children.

A composite of the viewing estimates of a number of studies (Chaffee and McLeod, 1972; McIntyre and Teevan, 1972; McLeod, Atkin, and Chaffee, 1972a; Lyle and Hoffman, 1972a, 1972b; Schramm, Lyle, and Parker, 1961) indicates that by the age of four, children on the average are viewing about two hours a day, an increase from about half an hour two years earlier. Viewing rises through the elementary school years, with a peak of about four hours a day at age 12, then declines slightly during the high school and later years. There is considerable individual variation; for example, in a small sample of black boys, viewing over a week varied from five to 42 hours (Murray, 1972).

Comparisons of findings over the past two decades (Comstock et al., 1978) suggest that the inverse relationships between amount of viewing and measures of cognitive capability, such as I.Q. and school achievement, and between amount of viewing and family socioeconomic status that were once very prominent may be lessening. Such shifts would testify to television's increasing penetration of society. The available data do suggest that black children view more than white (Greenberg

and Dervin, 1970). Media use patterns related to intellect, race, and socioeconomic status become more pronounced as children grow older because it is only with advancing age that these factors become reflected in divergent interests and differential leisure opportunities.

A typical motive for the viewing of television is entertainment or diversion. Music, for example, is much more frequently the recourse in periods of emotional upset (Lyle and Hoffman, 1972a)--probably because it is, at one and the same time, more nurturing of reverie and introspection, and also more emotionally stimulating, and thus variously assists coping with the past as well as directly countering oppressive feelings. And music, of course, can be varied far more readily than television programming at the command of the consumer. These facts should not distract us from taking extraordinary involvement in television or any other medium as a symptom of unsatisfactory relationships with peers or parents or of psychological discomfort (Himmelweit, Oppenheim and Vince, 1958; Schramm, Lyle, and Parker, 1961; Johnstone, 1974; Maccoby, 1954).

Program preferences develop almost as soon as viewing begins, soon conform to sex-role differences, and by the mid-teens approximate the viewing preference of adults (Comstock et al., 1978). The male leaning is for action; the female for comedy. These differences occur within the broad trend in which, in the early 1970s, the favorites of the preschool and first grade child were cartoons and comedies, and of the older elementary school child, non-cartoon comedies, with action-adventure, music and variety, and general drama becoming more prominent by the time of the transition from elementary to high school. Viewing

preferences, of course, are contingent on program availability; the shift in recent years toward situation comedy may somewhat alter this pattern.

As emphasized earlier, the various studies that have assessed the exercise of parental authority in regard to television viewing (Bower, 1973; Chaffee, McLeod, and Atkin, 1970; Greenberg and Dervin, 1970; Hess and Goldman, 1962; Lyle and Hoffman, 1972a, 1972b; McLeod, Atkin, and Chaffee, 1972a, 1972b; Stein and Friedrich, 1972) provide a composite of parental complaint, atypical action, and a certain trepidation over what television may be teaching children. The typical circumstance is that parents pay little attention to the amount of time spent viewing, and are most likely to impose limits in regard to an evening cut-off which in fact is a bedtime although in effect a termination of television viewing. Concern more often translates into an attempt to restrict the viewing of certain content, and the exercise of parental authority with regard to content appears to occur more frequently with specific programs than with a broad category of programs.

However, there is evidence that television is perceived by a substantial proportion of parents as a competitor in influencing their children. This evidence does not consist of the frequency or fierceness of any such declaration by parents, but of a shift in parental statements when children reach a susceptible age. One might expect parental restrictions to decline as a child grows older. However, in that national survey (Bower, 1973), the proportion asserting that they "often" forbid the viewing of certain programs increases from 39 percent for the parents of children 7-9 years old to 52 percent for those of children 10-12 years old. One can rule out the explanation that increasing

homework affects parental severity over time use because there is no increase in the claimed restriction of amount of viewing--only in what is viewed. Apparently reflected here is a perception by parents that at this age, as children begin to view regularly television ostensibly aimed at adults, the images and themes of television drama about occupations, crime, the law, and the way people behave now truly become relevant, for the young viewer soon will be making his own choices about these questions.

In practical terms, however, the province of authority into which television falls is as often, and generally more commonly, that of the child than of the parent. In the data on program selection (Bower, 1973; Wand, 1968), we find that children play such a large role that it is not pejorative in regard to content to call it "the children's medium." When child and parent disagree, the child will prevail about as often as the adult; when two parents are in disagreement, the child's preference will be decisive. This record of parliamentary efficacy overlooks those occasions when child and parents agree, or when the child views alone or with peers--additional instances when the child views what he wants. There is also a hint that, while adolescents do not appear to emulate parents in program selection, parents may base their selections on adolescent suggestions (Chaffee, McLeod, and Atkin, 1971; McLeod, Atkin, and Chaffee, 1972a, 1972b). The impression is one of considerable independence, and possibly some degree of aesthetic imperialism on the part of the young viewer.

The independence of the child undoubtedly has been augmented by the growth of multi-set households (Bower, 1973; LoScuito, 1972; Chaffee, McLeod, and Atkin, 1970; Comstock et al., 1978). In 1965, Nielsen estimated that about one-fifth of all households had two or more

sets. By 1975, the figure was approaching 50 percent. Such figures underestimate the role of multi-sets in the family because the proportion of households with two or more sets increases with family size.

However, there are three restrictions on the degree to which multiple sets imply exposure of the child to television that otherwise would not be viewed. One is the already cited degree to which children's choices rule family decision making, which renders access to another set superfluous in regard to freedom of program choice. A second is that about half of the second sets are in parental bedrooms, which means that they are largely not available for child use. The third is the apparent lack of difference --although admittedly there is little evidence on the issue--between single and multiple set homes in the degree to which the viewing of children parallels that of parents, suggesting that multiple sets do not significantly alter the kind of programming viewed by children.

Furthermore, while multiple sets somewhat change the pattern of family interaction, they do not seem to result in wholesale viewing of adult, prime time programming with parents not present. In single set households, about 95 percent of parents say that some joint viewing is "likely"; when there is a second set, the figure drops to 80 percent; when there are three or four sets, to about 65 percent; and when there is more than one set, viewing by children apart from parents, and viewing by husbands and wives together, become more likely. Nevertheless, A. C. Nielsen and Company estimates that 80 percent of prime time viewing by non-adults occurs when an adult is also viewing (probably an overestimate because of data collection by diary, which would minimize

reporting when an adult was absent, but a figure large enough that it would be likely to remain substantial after discount).

These varied findings lead to several conclusions. One is that multiple sets do not imply marked new independence in what is viewed. Another is that multiple sets somewhat increase viewing by children apart from adults. The third is that this shift does not necessarily imply isolation of the child from an adult during prime time. The implication overall is that multiple sets do not much affect what is seen, but somewhat reduce the opportunity for adults to communicate with the child about what is being televised.

The lack of parental control of viewing, and the authority of children in access to programming, coupled with the earlier-discussed role of viewing in providing information, take on their significance when we turn to evidence on the influence of parents or other adults in translating for young viewers the messages television disseminates. Hicks (1968) found that the presence of an adult who has expressed disapproval of a violent portrayal can inhibit the subsequent display of aggressiveness by young children; Lefcourt et al. (1966) found that censorious remarks by the experimenter about the behavior in a sequence from the movie Rebel Without a Cause inhibited the subsequent aggression of college-age subjects. In the area of public affairs, the partisanship of children on the Vietnam war--hawk or dove--paralleled that of parents, although television was the source of information (Tolley, 1973). When we examine the correlations between everyday violence viewing and attitudes favoring the use of violence among adolescents, we find that such attitudes, although positively related to violence viewing, are more strongly related to parental indifference in regard

to aggressiveness (Dominick and Greenberg, 1972). When we examine the positive correlations between such violence viewing and everyday aggression among adolescents, we find that this relationship is reduced among the children of parents who emphasize non-aggressive behavior (McLeod, Atkin, and Chaffee, 1972a, 1972b; Chaffee, 1972). What these findings strongly suggest is that children's interpretations of television messages are highly susceptible to the communication provided by parents or other adults, such as teachers. We have no reason to believe parents typically exercise this authority; we do have reason to believe that it is effective when they do.

The proposition these data appear to support is the reasonable one that television will most influence children when other influences are absent. This view is consistent with the varied findings that television depictions influence children's perceptions of unfamiliar occupations (DeFleur and DeFleur, 1967), that children from social strata where family disruption is more common express greater preference for viewing families on television (Surlin and Dominick, 1970), and that adolescents with limited opportunities for firsthand knowledge turn to television for ideas about dating and social interaction (Gerson, 1966). Such a conclusion was advanced by Himmelweit, Oppenheim, and Vince (1958) 20 years ago, after their large-scale assessment of television's effects on children in England, and it has been supported by the evidence collected since. It would not be fanciful, however, to argue that the extent to which television exercises this potential for authority depends on the degree of abdication indulged in by adults.

STUDYING MASS MEDIA EFFECTS

The supposed ideal test of media effects would be a field experiment in which real-life television exposure is manipulated and subsequent real-life behavior measured. The track record of such enterprises does not encourage high expectations (Feshbach and Singer, 1971; Wells, 1973; Stein and Friedrich, 1972; Milgram and Shotland, 1973; Parke et al., 1977). First, there is a persistent risk that the denial of television fare so often necessary to create a treatment or control condition inadvertently will trigger frustration which itself will affect behavior. Second, the necessity of emulating real life often requires the substitution of intact groups for perfect random assignment of subjects. Third, the naturalistic conditions on which creditability rests may prove difficult or impossible to achieve. Fourth, the integrity of treatment conditions may be compromised not only by the chaos of natural events but by the need to reduce audience complaints over unsought for and unfamiliar programming.

There is also the insensitivity of the field experiment to socially important effects (Milgram and Shotland, 1973; Comstock, 1974). This paradox arises because of the vast size of the broadcast audience. There are numerous influences concomitant with natural circumstances that could mask an effect that may occasionally occur as a consequence of media exposure. These influences include the greater possibilities of imperfect attention to the stimulus, of exposure to stimuli with countervailing effects, of the diminution of media effects over time, of the absence of opportunity to perform a particular class of behavior, and of the greater intrusiveness of the influence of others--that

alternately elicitory and inhibitory factor that we glibly denote as "social norms." What the paradox means is that the field experiment is not a wholly trustworthy arbiter of impact. In the field experiment, a phenomenon may occur at a rate below statistical detection although the actual impact would be of considerable magnitude--whether assessed by number or by social importance. If one person out of 1,000 were affected by telecast with a modest prime time audience of 13 million, the magnitude of influence would be 13,000 cases. Such an effect would escape the methodological net of the typical field experiment--although admittedly control and treatment groups demarcated by the Mississippi would suffice.

Nevertheless, one lesson provided by the Surgeon General's study of television violence is that scientific prominence and credibility for social action or the resolution of an issue are not the same (Comstock, 1976). Before its initiation, there were about 50 published experiments of the laboratory-type that demonstrated a greater degree of behavior said to be aggressive on the part of children or adolescents who had viewed film or television portrayals of violent or aggressive behavior (Surgeon General's Scientific Advisory Committee, 1972). Such a prominent media researcher as Bogart (1972) argued in retrospect that the scientific advisory committee's conclusion that television violence increased the likelihood of aggressive behavior among young viewers was self-evident beforehand, and that the undertaking was unnecessary. The necessity, of course, lay in the vulnerability of the laboratory-type experiment to criticisms of artificiality of the stimuli, dependent measures, and setting (Weiss, 1969; Hartley, 1964). The conclusion of the Surgeon General's scientific advisory committee (1972) that the

evidence was most consistent with support for the hypothesis that television violence increases viewer aggressiveness hinged on the "convergence" of findings from laboratory-type experiments and from surveys relating real-life viewing to everyday aggressiveness. From the evidentiary standpoint, these latter survey findings were the principal contribution of the Surgeon General's study.

The implied solution is the accumulating of findings from different genres of method, rather than the ostensible prowess of a single method or the claim--certain to turn illusory--that a particular study is compelling. Such a perspective recognizes at once that media effects will seldom be so dramatic as to dwarf other influences in the course of everyday events and that the sensitiveness of laboratory-type experiments to the detection of effects will seldom be associated with conditions that encourage unqualified generalizability to everyday happenstance. It assigns to the experiment the task of permitting causal inference and the exploration of processes by which effects occur, and it assigns to the survey or, under felicitous conditions, the field experiment the resolution of such findings with the helter skelter of life. It also implies that evidence of association is not simply discarded because it occurs in a methodological context where causal inference is impossible or vulnerable to challenge.

Experiments, of course, must validly test their hypotheses. Frequently, a naturalistic setting strongly enhances validity because the behavior under study does not seem to achieve its true meaning in artificial circumstances. A naturalistic setting is for this reason often a very great asset. Such a strength simply becomes irrelevant when the

price, as is so often the case with the large field experiment, is loss of rigor and control.

The corollary of this broad perspective is that the laboratory-type experiment should continue to be employed to test hypotheses derived from theoretical formulations purporting to predict the occurrence of media effects. Its lack of credibility regarding social issues is a function of its occasional role as sole source of information. It does not by this fact lose its status as the only reasonable means for developing and elaborating theory. Moreover, such application is not by itself devoid of implications for reaching a conclusion about the real-life effects of the media. We will have much greater confidence in our conclusion when it fits a plausible explanation of why the effect in question has transpired, and the plausibility of our explanation will rest on the degree to which it has survived the tests of sensitive and rigorous scrutiny that a laboratory-type setting makes possible.

SUMMARY

Increasing attention is being given by social and behavioral scientists to the influence of the mass media, and research on the incidental instruction given children by television is both cause and effect of this trend. Laboratory-type experiments and data collected from everyday life are consistent and thereby provide convincing evidence that television can influence children's immediate behavior. This effect, by altering the behavior subject to the vicissitudes of reinforcement in social interaction, establishes a foundation for more far-reaching influence. Much of the research has concerned the effects of violent portrayals on subsequent aggressiveness, but the principles established have wider applicability. These principles hold that behavior is most likely to be affected when, by one means or another, a portrayal conveys (a) behavior that is relevant to the circumstances in which a viewer finds himself, (b) the behavior portrayed is efficacious or successful, (c) the behavior portrayed appears to enjoy the approval of society, and (d) the behavior is open to emulation. Television also has varied cognitive and attitudinal effects on children. It is the principal source of information for children about public affairs, and the discrepancy between the consensual symbols emphasized by the school and the accounts of conflict conveyed by television ensures that the medium's civics instruction is not redundant. Television designed to convey information can be quite effective, and entertainment programs occasionally provide instruction, but their impact is sometimes limited by redundancy with one another. This repetitiveness, however, presumably ensures that the limited range of lessons

taught are thoroughly learned. Television principally instructs when other sources of information are absent, its messages are not in conflict with one another, and these messages have some applicability to the viewer. Commercials also instruct children. Commercials influence preferences for the value placed upon products, and stimulate requests that the products be purchased. Young children do not recognize that commercials differ from program content in being self-interested sales attempts. Children become increasingly skeptical of commercials as they grow older, but this obviously does not imply that they are unaffected unless one assumes that an adult perspective on advertising renders it ineffective. The various relationships involving young persons and television change as an individual grows older; tastes and preferences in programming and time spent with the medium change along with individual interests and needs. Because information-seeking in regard to public affairs begins to become observable in early adolescence, and use of media other than television increases at the same time, this appears to be an effective time for formal instruction within the school about the way the news media operate. The study of television's influence requires both laboratory-type experimentation and the collection of data from real life, the former to establish the possibility of causation and to explore the factors on which it is contingent, and the latter to confirm the presence in real-life of relationships consistent with the findings of such experiments. Naturalistic settings for experimentation are valuable because they increase the validity of measurement, but field experiments, although in principle the transfer of the laboratory-type experiment's prowess

for causal inference to real life, in practice seldom provide compelling evidence because in execution rigor and control are often lost.

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